
Scheduler

The Meridian Administration Tools system includes a Scheduler that allows you to schedule certain events to occur at specific dates and times. An *event* is a set of one or more tasks. A *task* is a specific activity that the MAT system can perform, such as updating the system, generating a report, or collecting data. Note that only events can be scheduled; individual tasks cannot be. However, an event may contain a single task.

With event scheduling, you can request that one or more activities be performed once or on a recurring basis. When a scheduled event runs, it executes its component tasks in the sequence you specify. The Scheduler sends these tasks to the Queue Manager at the specified time. If multiple tasks in the queue are to run at the same time, the Queue Manager attempts to run them in queue sequence. You can access the Queue Manager to review and change the priority of task execution.

This chapter describes how to use the Scheduler and the Queue Manager.

Accessing the Scheduler

An event can be scheduled in two different ways. After logging in, you can directly access the Scheduler and create an event and its component tasks, or you can access the Scheduler from a supported application.

To access the Scheduler, double-click on the Scheduler icon in the Windows desktop.

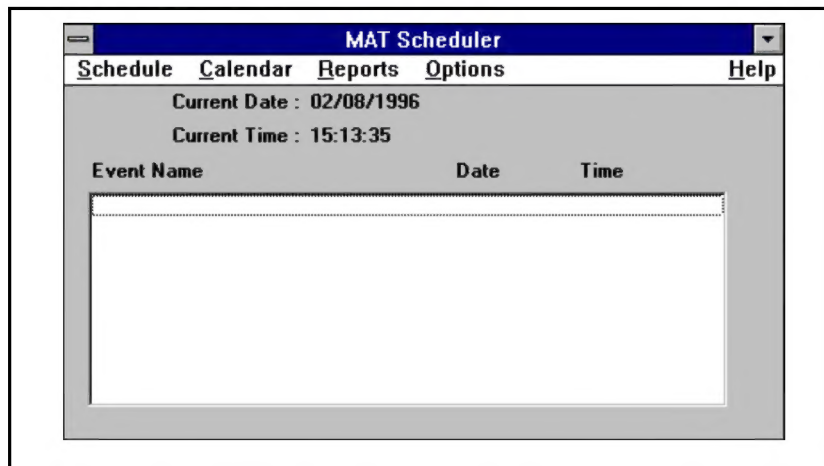
Note: The MAT administrator must grant the user the appropriate read/write privileges for access to the Scheduler.

To access the Scheduler from a supported application, select the Schedule command where it appears in that application. For example, you can click on the Schedule command button in the System Reports dialog of Traffic Analysis. You can then use the Scheduler functions to enter the scheduling criteria for this application.

Note: After you have entered the scheduling criteria, the Scheduler may not return you back to the invoking application. You must click on the invoking application's window or icon to access it again.

When you access the Scheduler, the Scheduler window appears:

Figure 36
Scheduler window



The Scheduler normally runs in minimized mode. This means that when the scheduled time for an event arrives, the Scheduler automatically runs it without interrupting current sessions.

Note: The Scheduler must be running in the Windows environment at the time an event is to run. You can start the Scheduler application at any time and minimize (iconize) it so that it will be running in the background at the time scheduled for the event—even if MAT is not running. If the Scheduler is not running at the scheduled time, the event and its tasks are not executed.

How the Scheduler works

The Scheduler reads event data and builds a list of tasks and their schedule information in memory. At 30 second intervals, the Scheduler compares the current time with the scheduled time of each entry in the task list. When the times match, the tasks are executed sequentially, allowing one task to complete before the next task begins. While it is active, the Scheduler maintains this task list in memory. If you close the Scheduler, the task list is lost—the task list is rebuilt the next time you run the Scheduler.

The following is a sample task list:

Entry #	Date	Time
1	12/25/92	14:23
2	12/25/92	20:00
3	01/01/93	01:00

The task list is sequenced by time within date. When the Scheduler reaches a date and time that is greater than the current date and time, the Scheduler stops its search until the next 30 second interval.

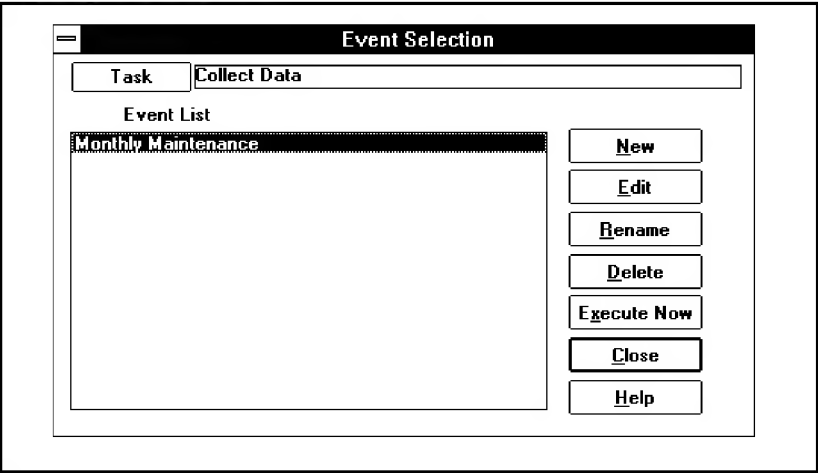
Scheduler Event Selection

After you invoke the Scheduler, you can configure an event by defining its tasks and scheduling the date and time at which the event is to run. You can invoke the Scheduler repeatedly during a Windows session.

Use the following steps to configure an event:

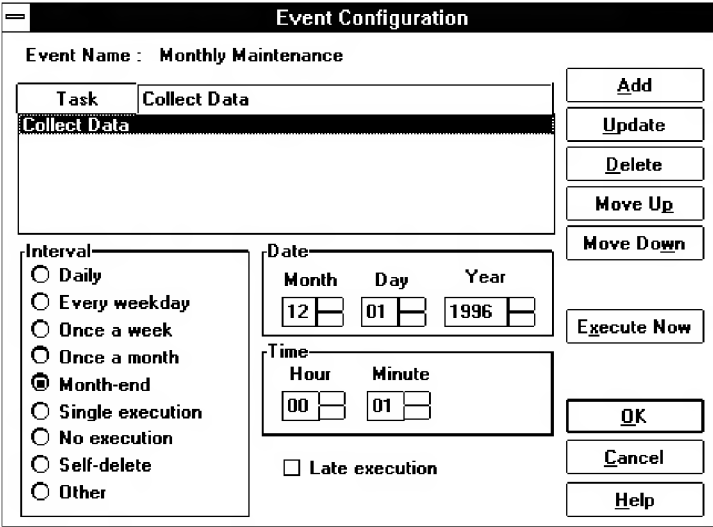
- 1 From the Scheduler, click on **Schedule** to access the Event Selection dialog.
 - To create a new event, click on **New**. The Event Name dialog appears, prompting for the name of the event. Enter the event name and click on **OK**. The Event Configuration dialog appears as shown in Figure 38.
 - To rename an existing event, select it and click on **Rename**. In the Event Name dialog, type the new name and click on **OK**.

Figure 37
Event Selection dialog



- To edit an existing event, highlight the event name and click on **Edit**. The Event Configuration dialog appears.

Figure 38
Event Configuration dialog



The Event Configuration dialog box is titled "Event Configuration". It contains the following elements:

- Event Name:** Monthly Maintenance
- Task List:** A table with two columns: "Task" and "Collect Data". The "Collect Data" row is highlighted.
- Interval:** A group of radio buttons for scheduling:
 - ☐ Daily
 - ☐ Every weekday
 - ☐ Once a week
 - ☐ Once a month
 - ☒ Month-end
 - ☐ Single execution
 - ☐ No execution
 - ☐ Self-delete
 - ☐ Other
- Date:** Fields for Month (12), Day (01), and Year (1996).
- Time:** Fields for Hour (00) and Minute (01).
- Late execution:** A checkbox labeled "Late execution" which is currently unchecked.
- Action Buttons:** A vertical stack of buttons on the right side: Add, Update, Delete, Move Up, Move Down, Execute Now, OK, Cancel, and Help.

- To delete an event, select it and click on **Delete**.
- To execute an event's tasks without waiting for its scheduled execution time, click on **Execute Now**.

2 Use the Event Configuration dialog to define the tasks for this event:

- Enter a description and command line for each task
- Enter the date and time for the initial occurrence of the task
- Select an interval for any subsequent occurrences of the task

The following list defines the valid data for each entry field in the dialog. Use the <Tab> key or mouse to move from field to field.

Description/Command: The Description/Command button toggles between the text description for a task and the associated DOS command line that invokes the task. The default is Description.

Click in the field beside the button and type a description for the first task in this event, such as **Trunk Summary Report**. Now click on **Description** to display Command.

The command line is created when you invoke the Scheduler from another module.

Note: You can manually force a queue name in the command line by clicking on the Command button and then entering the queue name in quotation marks (e.g., “Monthly Reports”).

Date: Date shows the Month, Day, and Year when a task is to be first run, and defaults to the system date. Provide this information by clicking on the buttons or typing in the correct values.

Time: Time shows the Hour and Minute, when a task is to be first run, and defaults to the system time. Provide this information in the 24-hour format by clicking on the buttons or typing in the correct values.

Interval: Interval lists valid intervals for any subsequent execution of this task. Click to select the correct interval at which to rerun this task.

- **Daily** invokes the task every day at the specified time, starting with the specified date.
- **Weekday** invokes the task every weekday, starting with the specified date.

Note: Even if the specified date is *not* a weekday, the task initially executes on the specified date. Subsequently, the task only executes on weekdays.

- **Weekly** invokes the task on the specified day of the week at the specified time. The Day of the Week dialog appears so you can choose the day of the week for the next occurrence of this event.
- **Monthly** executes the task every month on the specified day at the specified time.
- **Month-end** executes the task on the last day of every month starting with the initial date specified in the Event dialog (even if that date is not the last day of the month). Subsequently, the task runs at the end of each month at the specified time.
- **Once** executes the task only once, on the date and time specified.
- **None** never executes the task, even if a date and time are specified. You may have decided to stop execution of the task and wish to have a system entry for record-keeping purposes.
- **Self delete** executes the task only once, on the date and time specified. After the task executes, the Scheduler deletes it from the event.
- **Other** presents the Other Interval dialog, in which you specify the exact date and time intervals for scheduling the task. The Days, Hours, and Minutes fields indicate the time between executions of the task.

For all tasks with intervals other than **Once** or **None**, the Scheduler continuously examines and updates the event file. Just before a task executes, the Scheduler updates the event file with the date and time entries for the next execution. The Scheduler then invokes the current task.

Late Execution: Click on this box if you want the associated task to run if it is overdue. This situation occurs if a module is shut down and restarted after the execution time for a task. If the task definition includes **Late Execution**, the Scheduler immediately executes the overdue task.

- 3 When you finish defining a task, use one of the following buttons:
Add: Click on **Add** to add the current task to the event list.
Update: Click on **Update** to update any changes made to this task.
Delete: Select the task you wish to delete and click on **Delete**.
Execute Now: To execute this task immediately for test purposes, click on **Execute Now**.
- 4 When you finish configuring this event, click on **OK** to save your work and return to the Event Selection dialog. Click on **Cancel** to return without saving your work.
- 5 To execute the entire event, click on **Execute Now**. To configure another event, repeat steps 2 through 4.

To exit the Event Selection dialog, click on its Control menu box and select **Close** to return to the Scheduler window.

Calendar

To display the current month and day in a calendar format, click on the Calendar menu item from Scheduler's main window. A calendar will appear on your screen.

In addition to viewing the present month and day, you can view the future months and specific days. To do so, click on the arrow button until you reach the desired month.

To close the calendar, click on the OK command button.

Reports

The Scheduler provides the following two reports that list your events:

— Scheduled Events

This report lists all configured events, including event name, scheduled date and time, and interval.

— Event Detail

This report lists the tasks defined for every configured event.

Use the following steps to print a Scheduler report:

- 1 In the Scheduler window, open the Reports menu and select the desired report.
- 2 In the Print dialog, review or change the default values. Click on **OK** to print the report.

Options

The Scheduler Options menu provides the following tools to help monitor a session:

- Permanent Queues
- Log Events
- Confirm Deletes

To access one of these tools, open the Options menu from the Scheduler main window and select the appropriate menu item.

Permanent Queues

When invoking an event, the Scheduler assigns it to a temporary queue. After the event's tasks are complete, or when the system shuts down, the temporary queue is deleted. The Permanent Queues option allows you to create a permanent queue for specific events (for instance, a report that you run each Wednesday evening). These queues are *not* deleted after task completion or when the system goes down.

To create a permanent queue, click on Permanent Queues from the Options drop-down menu. In the Permanent Queue dialog, click on **New** and type the name of the new queue. Click on **OK** to save the queue and return to the Scheduler window.

Log Events

This option creates an entry in the MAT History File for each event as it is invoked. To generate this log, select **Log Events** in the Options menu.

Confirm Deletes

When selected, this option creates a system prompt asking for confirmation upon deleting an entry. To enable this function, select **Confirm Deletes** in the Options menu.

Queue Manager

The Queue Manager is a function of the Scheduler that maintains a separate queue (list of tasks) for each Scheduler event. The role of the Queue Manager is to ensure that the event's tasks are performed in the correct order, and that each task runs to completion before the next task begins. When the Scheduler initiates an event, it invokes the Queue Manager, which establishes the execution priority of the event's tasks. The Queue Manager recognizes two types of queues:

- a communications script (to communicate with the switch)
- a text generation (to generate reports)

If you are using a non-sharable facility, such as a communications port that serves a number of communications sessions which cannot run at the same time, the Queue Manager enqueues each communications session.

Queue interface

To access the Queue Manager for an event, double-click on the Queue icon that appears when the event is invoked. The Queue Manager window opens, displaying a list of the event's tasks, with each task preceded by its execution priority number. The currently running task appears on the first line of the Queue Manager window. Any subsequent tasks appear below it.

The Queue Manager window provides two menus that enable you to manipulate an event's tasks:

- Edit
- Options

Edit menu

Use the Edit menu to manipulate the tasks for this queue.

The Edit menu commands (**Delete**, **Promote**, etc.) are only active for queues containing multiple tasks. The commands only apply for the highlighted task in a group of tasks, and are dimmed when there is only one task in the queue.

Delete

To remove one or more tasks from the queue, select the tasks and click on **Delete** from the Edit drop-down menu.

Promote

To promote (raise priority) of one or more tasks in the queue, select each task and select **Promote** from the Edit drop-down menu. The tasks' priority numbers increase and their positions in the queue are adjusted appropriately.

Demote

To demote (lower priority) of one or more tasks in the queue, select each task and select **Demote** from the Edit drop-down menu. The tasks' priority numbers decrease and their positions in the queue are adjusted appropriately.

Swap

To swap the priorities of two tasks in the queue, select both tasks and select **Swap** from the Edit drop-down menu. The tasks' priority numbers are switched and their positions in the queue are adjusted appropriately.

Move Up, Move Down

To move one or more tasks up or down in the list by one position, select the tasks and click on **Move Up** or **Move Down** from the Edit drop-down menu. If the task is moved into a position where its priority should change (it is positioned above or below a task with a different priority level) the task's priority number is adjusted to suit its new position in the list.

Release

Select **Release** from the Edit menu to remove the currently active task from the Queue Manager, allowing the next available task to execute. This command is useful when you need to start the next task in the Queue.

Suspend

Select **Suspend** from the Edit menu to halt the queue and its tasks from executing. While the Queue Manager is in Suspend mode, it can still receive tasks from an application, if requested.

Resume

Select **Resume** from the Edit menu to restart the Queue Manager. The Queue Manager will first recover the last task that was deactivated when the Suspend command was initiated and start its execution.

Exit

Select **Exit** from the Edit menu to exit the Queue Manager.

Options menu

Use the Options menu to access Queue Manager options.

Permanent

The Queue Manager only remains active (with its icon on the screen) while an event is active. When the last task in the queue completes execution, the Queue Manager icon disappears. To keep the Queue Manager for this event active, select **Permanent** in the Options menu. A check mark appears beside this selection in the menu to show that it is active. Click on the menu selection a second time to deactivate this feature.

Log events

To log the tasks for the queued event, select **Log Events** from the Options menu. Tasks are logged to the MAT History File, where you can view, save, or print them. A check mark appears beside this selection in the menu to show that it is active. Click on the menu selection a second time to deactivate this feature.

Confirm Deletes

When selected, this option creates a system prompt asking for confirmation upon deleting an entry. To enable this function, select **Confirm Deletes** in the Options menu.